

WHAT IS CLAIMED IS:

1. A semiconductor integrated circuit of the structure that analog circuits and digital circuits are formed on one semiconductor substrate and an external terminal of said analog circuits is used in common as an external terminal of said digital circuits,

wherein selection switches are respectively provided in the course of the wiring connecting between said external terminal and said analog circuit and the wiring connecting between said external terminal and said digital circuits, and

wherein voltage fixing means is connected to the wiring connecting between said selection switches and said digital circuit for fixing the relevant wiring to the predetermined voltage under the condition that the relevant selection switch is in the shut-off condition.

2. A semiconductor integrated circuit according to claim 1, wherein the voltage fixing means are respectively connected to a part of the wiring connecting between said external terminal and said digital circuits which is nearer to said digital circuits than said selection switch and a part thereof nearer to said selection switch for fixing the relevant wiring to the predetermined voltage under the condition that the relevant selection switch is in the shut-off condition.

3. A semiconductor integrated circuit according to

claim 2, wherein a terminal and a wiring for supplying power supply to said analog circuits and digital circuits are formed individually, said voltage fixing means connected to a part nearer to said digital circuits is constituted to fix the voltage of said wiring to the power supply voltage of said digital circuits and said voltage fixing means connected to a part nearer to said selection switch is constituted to fix the voltage of said wiring to the power supply voltage of said analog circuits.

4. A semiconductor integrated circuit according to claim 3, wherein said semiconductor substrate is a multilayer structure substrate on which a semiconductor layer is formed on a supporting substrate via an insulation layer, and the elements forming said analog circuit and the element forming said digital circuits are surrounded by an insulated isolation band formed to reach said insulation layer through said semiconductor layer.

5. A semiconductor integrated circuit according to claim 4, wherein a wiring connecting between said selection switch and said digital circuits among the wirings connecting between said external terminal and said digital circuits is formed at an upper part of a semiconductor region sandwiched by two insulated isolation bands formed to reach said insulation layer through said semiconductor layer.

6. A semiconductor integrated circuit according to claim 5, wherein said voltage fixing means is formed at the surface of said semiconductor region sandwiched between said two insulated isolation bands on which the wiring connecting between said selection switch and said digital circuits is formed.

7. A semiconductor integrated circuit according to claim 1, wherein the external terminal of said analog circuits is constituted to be used in common as the terminal for inputting and outputting the signal of a test circuit of said digital circuits.

8. A semiconductor integrated circuit for signal process comprising:

an oscillation control circuit for generating a control voltage of a first oscillation circuit for generating a first oscillation signal and a second oscillation circuit for generating a second oscillation signal;

receiving analog circuits including an amplifying circuit for amplifying a receiving signal, a first mixer circuit for combining the amplified signal and said first oscillation signal and converting the frequency thereof and a demodulation circuit for demodulating the signal frequency-converted in said first mixer circuit;

analog circuits including a modulation circuit for modulating a transmitting signal and a circuit for combining the modulated signal and said second

oscillation signal;

a control digital circuit for controlling said receiving analog circuits and transmitting analog circuits; and

a test circuit for outputting a signal from said control digital circuit to the external side;

wherein, at least an external terminal for inputting or outputting an analog input signal to said transmitting analog circuits or an analog output signal from said transmitting analog circuits is used in common as an external terminal for outputting a signal from said test circuit and selection switches are respectively provided in the course of the wiring connecting between said external terminal and said analog circuits and the wiring connecting between said external terminal and said digital circuits, and

wherein voltage fixing means is connected to a side nearer to said digital circuits than said selection switch of the wiring connecting between said external terminal and said digital circuits for fixing the relevant wiring to the predetermined voltage under the condition that the relevant selection switch is in the shut-off condition.

9. A semiconductor integrated circuit according to claim 8, wherein a terminal and a wiring for supplying power source to said analog circuits and said digital circuits are individually formed, voltage fixing means

are respectively connected to a side nearer to said digital circuits than said selection switch of the wiring connecting between said external terminal and said digital circuits and to a side nearer to said selection switch thereof for fixing the relevant wiring to the predetermined voltage under the condition that the relevant selection switch is in the shut-off condition, said voltage fixing means nearer to said digital circuits is constituted to fix the voltage of said wiring to the power source voltage of said digital circuits and said voltage fixing means nearer to said selection switch is constituted to fix the voltage of said wiring to the power source voltage of said analog circuits.

10. A semiconductor integrated circuit according to claim 9, wherein said semiconductor substrate is a multilayer structure substrate on which a semiconductor layer is formed on a supporting substrate via an insulation layer, and elements forming said analog circuits and elements forming said digital circuits are surrounded by insulated isolation bands formed to reach said insulation layer via said semiconductor layer.